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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,589	10/01/2003	Frank Bergmann	M&N-IT-490	7994
24131	7590	06/05/2006	EXAMINER	
LERNER GREENBERG STEMER LLP			WONG, TINA MEI SENG	
P O BOX 2480			ART UNIT	PAPER NUMBER
HOLLYWOOD, FL 33022-2480			2874	

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/676,589

Applicant(s)

BERGMANN ET AL.

Examiner

Tina M. Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13 and 15-22 is/are rejected.
- 7) ☒ Claim(s) 12 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office action is responsive to Applicant's response submitted 03 April 2006.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5-8, 10, 11, 13 and 16-19 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. Patent 7,036,998 to Tonai et al.

In regards to claim 1, Tonai et al discloses a coupling unit (Figure 3B) comprising a connecting area (13c) for connecting to a transmitting and/or receiving module (15), a holding sleeve (13a) configured to receive an optical fiber (52b) within the holding sleeve, a transparent coupling area (Figure 3B-25; Figure 7C-24) configured for directly contacting (Figure 4B, 8A, 8B, Column 8, Lines 2-6) the optical fiber and for directly coupling light between the optical fiber and the module when the optical fiber is inserted into the holding sleeve and the module is connected to the connecting area, where the transparent coupling area is formed integral (Figure 7C) with the holding sleeve and the connecting area.

In regards to claim 2, Tonai et al discloses the coupling area to have a side facing the holding sleeve that forms a projecting stop surface (30) for the optical fiber and the stop surface is for directly contacting a fiber core of the optical fiber when the optical fiber is inserted into the holding sleeve.

In regards to claim 3, Tonai et al discloses the holding sleeve to define a longitudinal axis and the stop surface to run at a right angle to the longitudinal axis of the holding sleeve.

In regards to claim 5, Tonai et al discloses the coupling area having a side facing the module and the side facing the module having an inclined (33) light inlet or outlet surface.

In regards to claim 6, Tonai et al discloses the transparent coupling area, holding sleeve and connecting area form a transparent resin (plastic) molded part. (Column 8, Lines 11-14; Column 9, Lines 59-60) Although Tonai et al does not specifically disclose the part to be injection molded, the limitation is a method limitation in a device claim. Applicant is claiming a product, not a method of manufacturing the product. The patent being sought is an end product that is met by the applied reference.

In regards to claim 7, Tonai et al discloses a horizontal running base plate (24) forming with the coupling area, the base plate having an upper face (30) connected to the holding sleeve (22), the holding sleeve extending essentially at right angles with respect to the upper face plate of the base plate and the base plate having a lower face (33) connected to the connecting area (23). (Figure 7C)

In regards to claim 8, Tonai et al discloses the holding sleeve forming an elongated sleeve with a precision guide.

In regards to claim 10, Tonai et al discloses the connecting area to be essentially cylindrical.

In regards to claim 11, Tonai et al shows the connecting area designed for connecting to a TO can in which the transmitting and/or receiving module is configured.

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In regards to claim 13, Tonai et al discloses a coupling unit comprising a substantially cylindrical holding sleeve configured to receive an optical fiber within the holding sleeve, a substantially cylindrical connecting area configured to receive an optical module within the connecting area, the connecting area further configured to optically align the optical module with the optical fiber when the optical fiber is inserted into the holding sleeve, a coupling area configured to couple light between the optical fiber and the optical module when the optical fiber is inserted into the holding sleeve and the optical module is received within the connecting area, wherein the coupling area is formed integral with the holding sleeve and connecting area and a common axis is shared by the holding sleeve and the connecting area.

In regards to claim 16, Tonai et al discloses the coupling area is transparent and has a refractive index substantially matched to the refractive index of the optical fiber. (Column 8, Lines 25-31)

In regards to claim 17, Tonai et al discloses the optical module is a TO can and the connecting area receives the TO can and the TO can is secured to the inner walls of the connecting area.

In regards to claim 18, Tonai et al shows the connecting area is substantially cylindrical and has an inner diameter that is sized to substantially conform to the outer diameter of the module.

In regards to claim 19, Tonai et al discloses the coupling area having an inclined surface configured to reflect light away from both the module and the fiber.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 7,036,998 to Tonai et al as applied to claims 1 and 13 above.

In regards to claim 4, although Tonai et al does not disclose an match of the refractive index of the optical fiber to the coupling area, Tonai et al does disclose the refractive index of the optical fiber to be close to the refractive index of the coupling area in order to restrain unwanted reflection of light at the interface between the two components. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have matched the refractive indices as close as possible in order to reduce unwanted reflection.

In regards to claim 9, Tonai et al discloses the holding sleeve designed to hold a ferrule (52a) having a center configured with the optical fiber (52b). But Tonai et al fails to specifically disclose the ferrule to be a ceramic ferrule. However, the use of ceramic ferrules is widely applied in the art. Using a material, such as a ceramic material in ferrules are desirable since they are non-electrically conductive, therefore reducing any undesired into or out of the fiber. Therefore, although not explicitly stated, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a ceramic ferrule.

In regards to claim 15, Tonai et al discloses the holding sleeve, connecting area and coupling area molded from a transparent plastic material, but Tonai et al fails to explicitly state

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the process was an injection molding process. However, injection molding, especially resins like plastic, is a commonly and widely applied technique when forming integral components.

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have injection molded the holding sleeve, connecting area and coupling area.

Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent 7,036,998 to Tonai et al.

In regards to claim 20, Tonai et al discloses molding a substantially cylindrical connecting area, a substantially cylindrical holding sleeve and a coupling area between the connecting area and holding sleeve using a molding process, wherein the connecting area is sized and configured to receive an optical module, the holding sleeve is sized and configured to receive an optical fiber in alignment with the optical module, wherein an axis of the holding sleeve is aligned with an axis of the connecting area, wherein the connecting area, holding sleeve and coupling area are integrally molded from a plastic material using a molding process. But Tonai et al fails to explicitly state the molding process was an injection molding process. However, injection molding, especially resins like plastic, is a commonly and widely applied technique when forming integral components. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have injection molded the holding sleeve, connecting area and coupling area.

In regards to claim 21, Tonai et al discloses the plastic material to be transparent.

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In regards to claim 22, Tonai et al discloses securing a TO can module to the inner walls of the connecting area, wherein the connecting area has an inner diameter that is sized to substantially conform to the outer diameter of the TO can.

Allowable Subject Matter

Claims 12 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record fails to disclose or reasonably suggest a coupling unit including all the limitations of the base claim (1 or 13), any intervening claims (none) but more specifically an integrally formed connecting area, holding sleeve and coupling area, where the coupling area includes a base plate with a cutout that passes **through** the base plate running adjacent and extends from the coupling area to the holding sleeve. Tonai et al relied upon above fails to show a through cutout in a base plate within the coupling area. Additionally, U.S. Patent 6,607,309 to Kuhn et al (Figure 3) and U.S. Patent 5,274,723 to Komatsu (Figure 2) both show optical coupling units with a transparent coupling member integrally formed. However, none of the Figures show, disclose or reasonably suggest a through cutout.

Response to Arguments

Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M. Wong whose telephone number is (571) 272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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PRIMARY EXAMINER